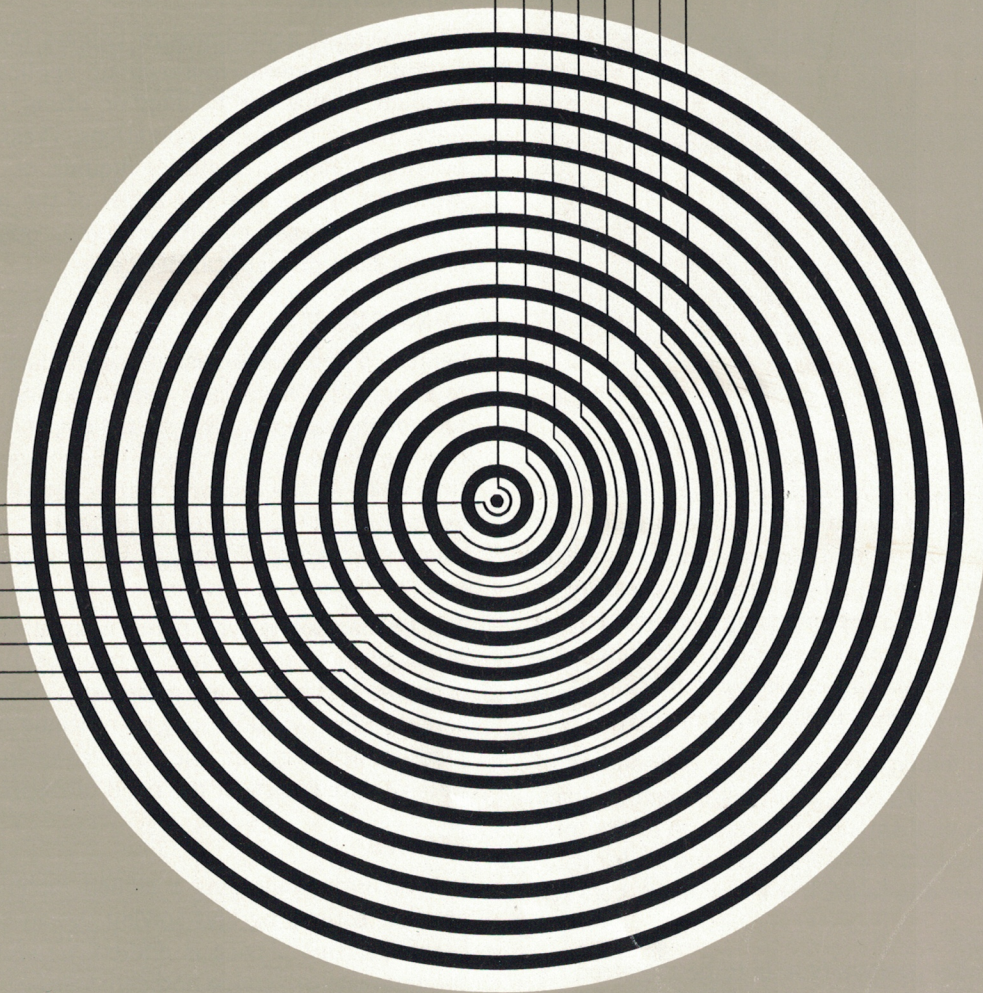




CATALOG 868



LEIMAN ROTARY AIR PUMPS FOR VACUUM OR PRESSURE

Our 81st Year
LEIMAN BROS INC

140 E. UNION AVENUE
EAST RUTHERFORD, N. J. 07073

4-STRAIGHT VANE PUMPS

2-STRAIGHT VANE PUMPS

4-CURVED VANE PUMPS

HIGH VACUUM AND PRESSURE PUMPS

INTEGRAL HIGH VACUUM PUMPS

INTEGRAL LUBRICATED PUMPS

ROTARY OIL-LESS PUMPS

INTEGRAL OIL-LESS PUMPS

MOTOR DRIVEN PUMPS — GAS BOOSTERS

AUTOMATICALLY CONTROLLED PUMPS — ACCESSORIES

The Advantages of LEIMAN ROTARY POSITIVE PUMPS

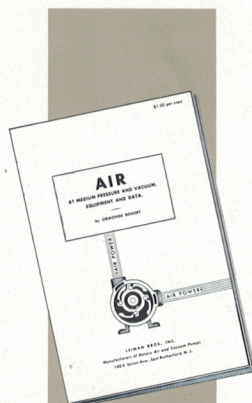
There are three common types of air pumps used in industry today — the rotary positive — the straight line piston or reciprocating — and the centrifugal fan. The reciprocating type pump is used where high pressure or vacuum is required. This reciprocating type must have valves. It requires renewable piston rings to compensate for wear and air reservoir to smooth out pulsations in order to produce as steady a flow as the rotary type.

The centrifugal fan type is used where only ounces of pressure are needed, because this type cannot be used efficiently where a pipe smaller than the size of the inlet and outlet is to be used. Fans are noisy and their operation is less efficient due to greater air slippage between fan and housing.

The Leiman rotary positive type is to be preferred for work within its capacity as to volume, pressure or vacuum, because of the even and continuous flow of air or gas. The air or gas may be taken directly from these rotary pumps without the use of a storage tank.

The advantages of the Leiman rotary type over reciprocating pumps are that they deliver a continuous flow of air practically free from pulsations, avoid reciprocating complications, are simpler in construction, are much smaller in dimensions for a given capacity, occupy less space, and cost less to install and maintain.

**ALL CATALOG DIMENSIONS
ARE FOR REFERENCE ONLY.
FOR MACHINING LAY-OUT
PLEASE WRITE TO FACTORY
FOR CERTIFIED DIMENSIONS**



APPLICATION

The universal acceptance of Leiman Pumps is due, in part, to the extensive range of applications covered. Vacuum pumps for holding or lifting paper, plastics, light metals or mixing operations. Pressure pumps for blowing materials, agitating liquids or increasing gas pressures. These are just a few of the many industrial processes where Leiman air pumps operate more efficiently than mechanical devices.

CONSTRUCTION

Leiman pumps have cast iron cylinders; therefore, the rotating vanes have the effect of honing the inside surface of the cylinder. In a short time, this inside surface is smooth like glass, insuring smooth operation and lifetime wear. As the unique construction of Leiman pumps demands that the vane tip be in contact at all times, the vanes wear in conformity. This guarantees full capacity, even after years of service.

The Leiman rotary type pump is smaller in dimensions for a given capacity than a reciprocating type pump, occupies less space and gives practically pulsation-free service. Since vacuum may be obtained at the inlet and pressure at the outlet, one pump can be used where two were required, without the need of reversing rotation.

SERVICE

Leiman Bros. maintains a skilled technical staff available for estimating and solving design and installation problems. This service is offered, without obligation, in the interests of service and satisfaction.

WHERE ARE LEIMAN AIR PUMPS USED?

Since 1887, Leiman Rotary Positive Air Pumps have been used by the leading firms in many industries for many different and wide ranges of uses. Many applications will suggest themselves to the design engineer and the plant manager faced with finding a better way of handling a specific job. Air in the form of vacuum or pressure or both may be the most satisfactory and economical solution to the problem.

A VALUABLE BOOKLET YOU SHOULD HAVE . . .

Learn what Air and its many uses can mean to your company. Send for our easy to understand, highly informative, 73 page booklet entitled "AIR AT MEDIUM PRESSURE AND VACUUM." This illustrated guide contains valuable technical data needed by all engineers working with air. It features:

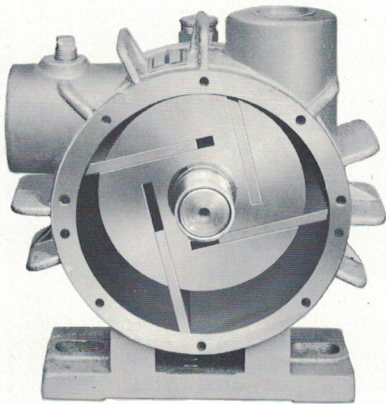
- Orifice tables indicating air requirements at given pressures or vacuum
- Variation of volume with vacuum
- Variation of volume with pressure
- Atmospheric pressures at varying altitudes

Cost — only \$1.00

LEIMAN OFFERS 3 BASIC DESIGNS IN ROTARY POSITIVE AIR PUMPS

4 STRAIGHT FIBRE VANE PUMPS

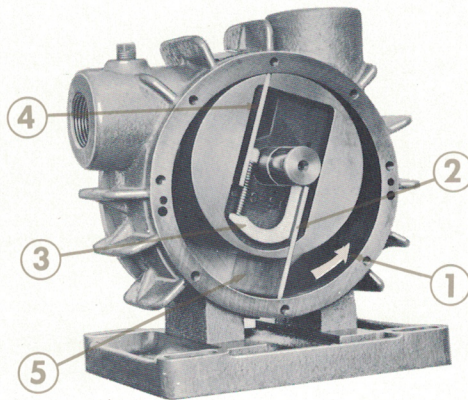
Vacuum to 26" Hg.
Pressure to 45 P.S.I.G.
3.6 to 200 C.F.M.



- design is of 4 sliding vanes using centrifugal force to hold vanes against cylinder
- anti-friction bearings and mechanical shaft seal
- gastite optional
- includes inlet filter and automatic E-113-4 oiler
- asbestos fibre vanes resists heat and controls expansion, assuring longer service life

2 STRAIGHT STEEL VANE PUMPS

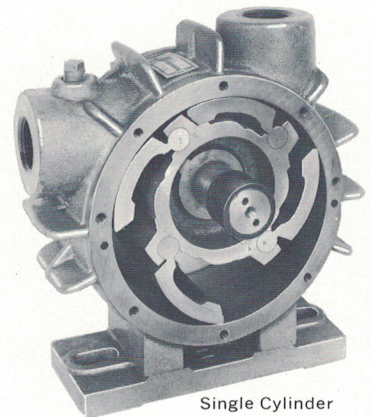
Vacuum to 27" Hg.
High Vacuum to 29.9" Hg.
Pressure to 15 P.S.I.G.
2.4 to 40 C.F.M.



- ① direction of rotation combined with firm, extra long vane bearing in piston slot and offset of vanes from shaft center means easy, noiseless operation.
- ② the large proportion of vane which always remains in piston slot gives firm bearing and eliminates chattering and fluctuation of air delivery or vacuum.
- ③ the Patented Automatic Vane Adjuster. (Not furnished on Models 26-1½ and 26-3.)
- ④ vane offset from shaft has extra long slot in piston for rigid bearing.
- ⑤ large proportional air space makes it possible to use a small, compact machine.

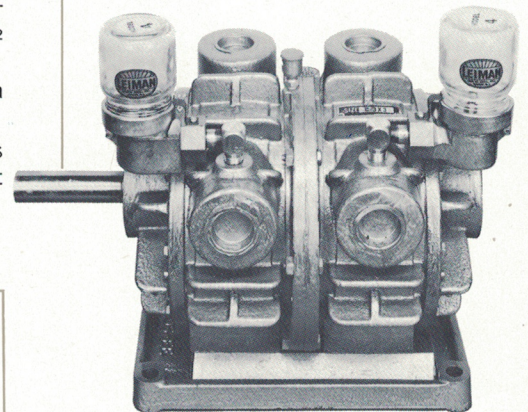
4 CURVED CAST IRON VANE PUMPS

Vacuum to 20" Hg.
Pressure to 10 P.S.I.G.
8.5 to 37 C.F.M.



Single Cylinder

- 4 hinged cast iron vanes for efficient and dependable service after years of operation.
- easy hinge action assures positive contact with cylinder by centrifugal force.
- heavy duty construction for rugged service.



Double Cylinder

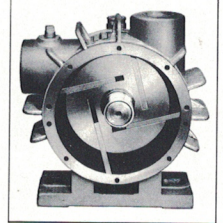
- 2 cylinder 4 curved vane models offer both vacuum and pressure simultaneously.

**NEED A PUMP
OR AIR MOTOR
THAT'S OUT OF
THE ORDINARY?**

**We will custom build
one for you to your
exact specifications!**

If you cannot find an air pump in the catalog that fits your requirements, write to our Engineering Department outlining your needs. Whether it's a matter of exotic materials, or a question of size, we have the technical knowledge, experience and facilities to **manufacture** to your requirements.

4-STRAIGHT VANE VACUUM PUMPS



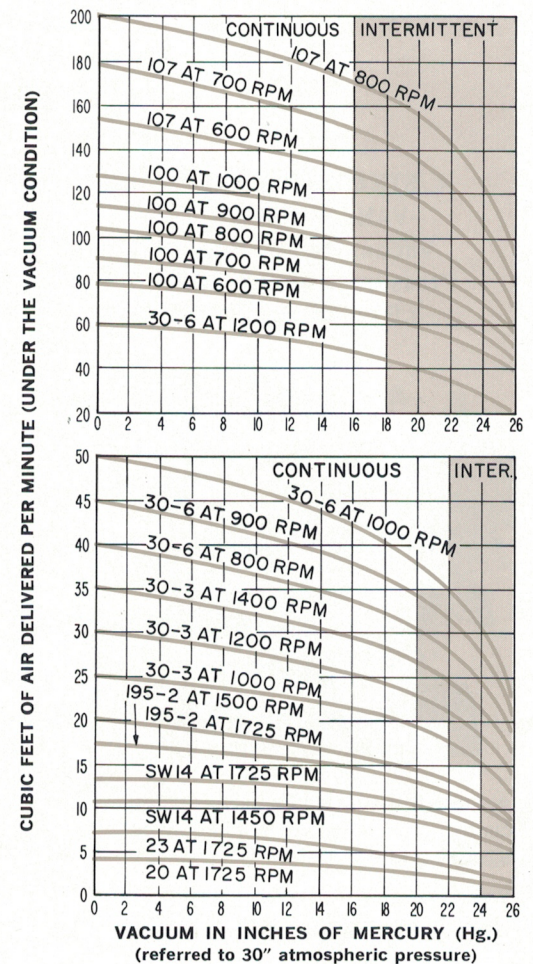
PUMP SIZE	C.F.M.	R.P.M.	VACUUM* INCHES Hg.		H.P.
			INT.†	CONT.	
20	3.6	1725	26	24	.25
23	7.2	1725	26	24	.5
SW-14	11.5	1450	27	24	.5
SW-14	14.5	1725	27	24	.75
195-2	16.5	1500	26	24	1
195-2	20	1725	26	24	1.5
30-3	25	1000	26	22	1.7
30-3	30	1200	26	22	2.2
30-3	35	1400	26	22	2.4
30-6	40	800	26	20	2.6
30-6	45	900	26	20	3.0
30-6	50	1000	26	22	3.3
30-6	60	1200	26	22	3.6
100	75	600	26	18	4.2
100	87	700	26	18	4.7
100	100	800	26	18	5.5
100	112	900	24	15	5.3
100	125	1000	24	15	5.8
107	150	600	24	16	5.9
107	175	700	24	16	7.0
107	200	800	24	16	8.1

†INT. = Intermittent — Time on equals time off — not to exceed 30 minutes.

CONT. = Continuous.

NOTE — For vacuum over 16" Hg. cooling fans are recommended. For vacuum to 29.9" Hg. see page 10.

CFM vs. VACUUM

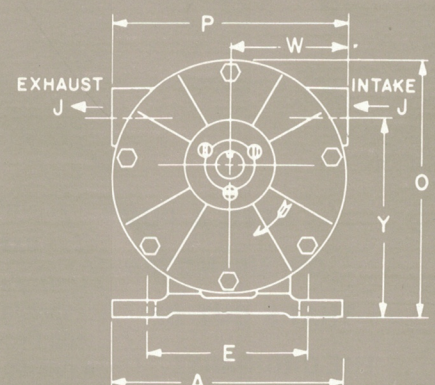


DIMENSIONS in inches

Dim. Letter	20	23	SW-14	195-2	30-3	30-6	100	107
A	3 1/4	3 1/4	7 1/4	7	7 3/8	8 3/4	13	13
B	2 3/4	4 3/8	3 1/4	2 5/8	2 7/8	7 5/8	11 1/8	11 7/8
C	5 3/8	6 7/8	7 3/4	8	10 1/8	13 1/4	14 1/4	22 1/16
D	2 3/4	2 3/4	4	4 1/2	5 1/6	6 23/32	7 15/16	8 3/4
E	2 3/16	2 3/16	6 1/4	5	5 3/4	7	10 1/2	11
F	2 1/8	3 3/4	2 1/4	—	—	5 1/4	9 1/2	9 1/8
G	3 7/16	4 3/16	4 3/32	5 1/4	6 25/32	8 5/16	8 7/8	12 3/8
J	3/8	1/2	1/2	3/4	1	1 1/2	1 1/2	3
K	1 1/2	3	2 13/16	2	3	6	6	12
N	1 1/2	1 1/2	1 1/2	2 1/2	3 1/4	3 1/4	3 1/2	4
O	4 13/16	5 1/16	6 1/4	7 11/16	9 1/16	10 7/8	14 1/8	15 3/4
P	3 5/8	3 5/8	6 1/4	7	8 15/16	9 1/8	13 3/8	14 11/16
R	2 3/8	2 5/16	3 3/8	5 1/4	6 25/32	5 1/16	4 1/8	7 13/16
U	1/2	1/2	5/8	3/4	1	1	1 1/4	1 1/4
W	—	—	3 1/8	3 1/2	4 11/16	4 11/16	7 3/8	7 11/16
X	15 1/16	15 1/16	—	—	1 15/16	1 15/16	2 1/16	2 3/8
Y	—	—	5 13/16	6 1/8	6 1/2	8 1/16	7 1/4	8 1/16
Keyway	—	—	3/16	3/16	1/4	1/4	1/4	1/4
Bolts	—	—	3/8	3/8	1/2	3/8	1/2	5/8
Type Bearings	B	B	B	R	B	B	B	R
Weight Lbs.	8	13	29	32	46	67	178	289

NOTE: R = Roller Bearing Type B = Ball Bearing Type

MODELS SW-14 and 195-2



4-STRAIGHT VANE PRESSURE PUMPS

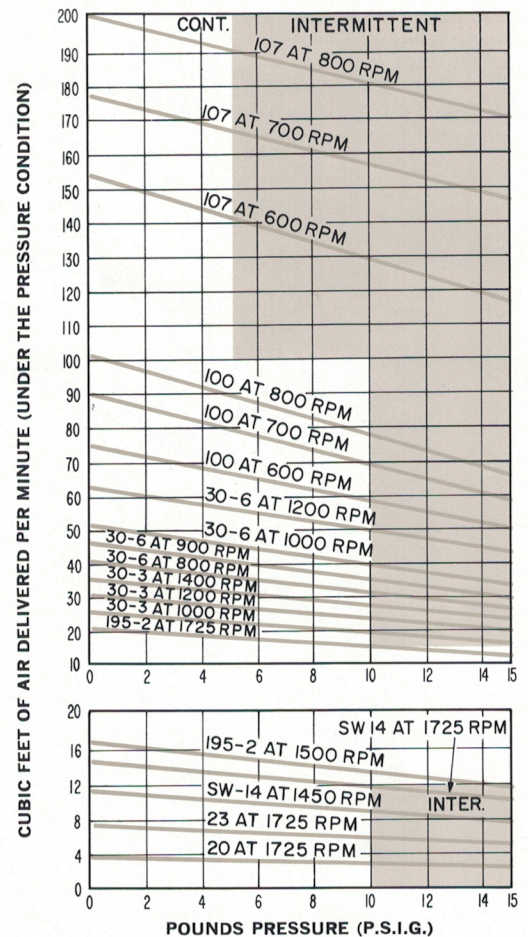
PUMP SIZE	C.F.M.	R.P.M.	PRESSURE P.S.I.G.		H.P.
			INT.†	CONT.	
20	3.6	1725	20	10	.33
23	7.2	1725	15	10	.5
SW-14	11.5	1450	15	10	.75
SW-14	14.5	1725	20	15	1.5
195-2	16.5	1500	20	15	1.5
195-2	20	1725	20	15	2
30-3	25	1000	15	10	1.8
30-3	30	1200	15	10	2.7
30-3	35	1400	15	10	3.3
30-6	40	800	15	10	3.1
30-6	45	900	15	10	3.3
30-6	50	1000	15	10	3.5
30-6	60	1200	15	10	4.0
100	75	600	15	10	4.7
100	87	700	15	10	5.4
100	100	800	15	10	6.1
107	150	600	8	5	6.6
107	175	700	8	5	7.3
107	200	800	8	5	9.0

†INT. = Intermittent — Time on equals time off — not to exceed 30 minutes.

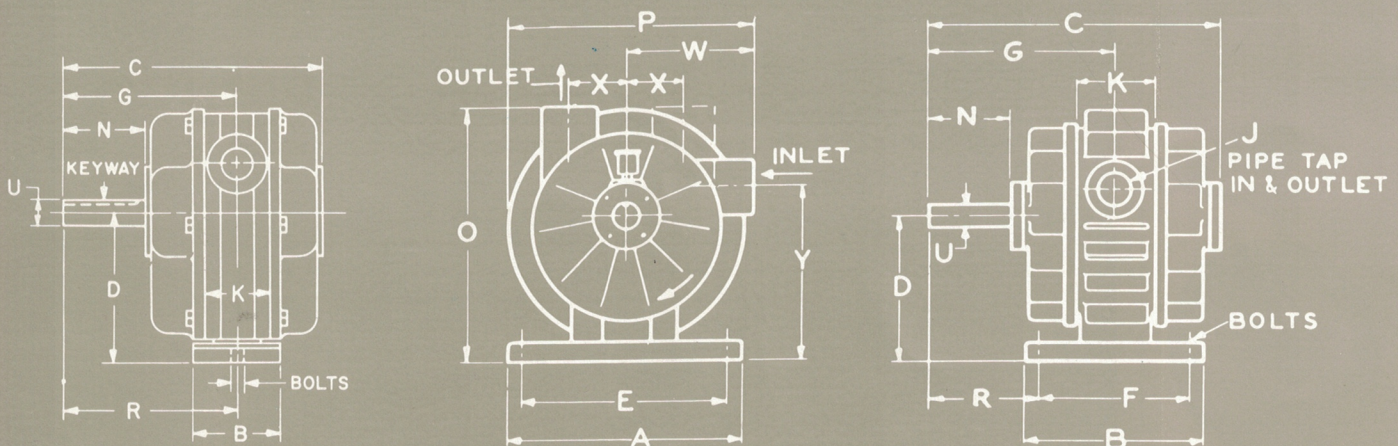
CONT. = Continuous.

NOTE — For pressure over 10 P.S.I.G. cooling fans are recommended. For pressure to 45 P.S.I.G. see page 12.

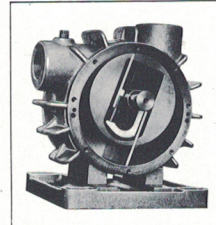
CFM vs. PRESSURE



MODELS 20, 23, 30-3, 30-6, 100 and 107



2-STRAIGHT VANE VACUUM PUMPS

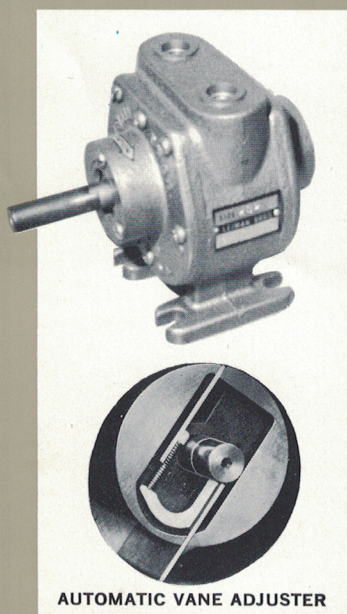
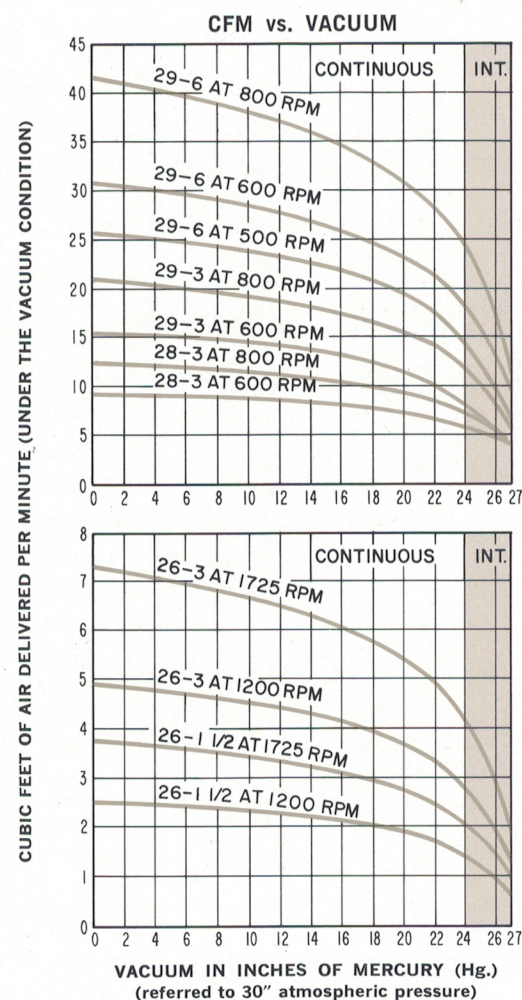


PUMP SIZE	C.F.M.	R.P.M.	VACUUM INCHES Hg.		H.P.
			INT.†	CONT.	
26-1½	2.4	1200	27	24	.25
26-1½	3.6	1725	27	24	.5
26-3	4.8	1200	27	24	.5
26-3	7.2	1725	27	24	.75
28-3	9.3	600	27	24	.75
28-3	12.4	800	27	24	1
29-3	15.3	600	27	24	1.3
29-3	20.4	800	27	24	1.7
29-6	25.5	500	27	24	1.7
29-6	30.6	600	27	24	2.0
29-6	40.8	800	27	24	2.8

†INT. = Intermittent — Time on equals time off — not to exceed 30 minutes.

CONT. = Continuous.

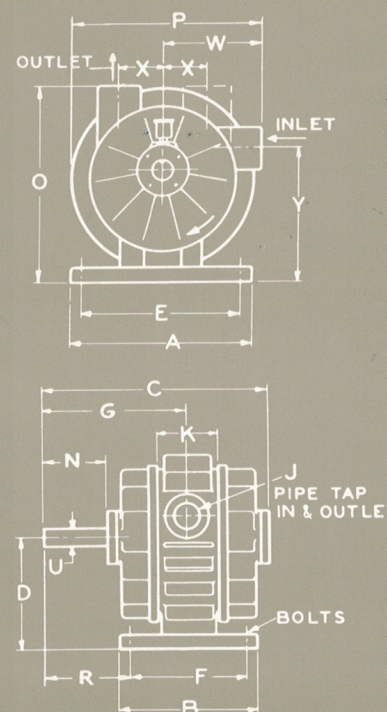
NOTE — For vacuum over 16 Hg. cooling fans are recommended.
For vacuum to 29.9 Hg. see page 10.



The 2-straight vane pump is designed for installations requiring a high degree of vacuum or pressure. The extra long vanes provide more bearing surface when fitted into the long vane slots. They are rigidly constructed and designed for years of wear. These long **steel** vanes seal up the air, preventing its escape through back leakage, insuring positive delivery of air at the outlet regardless of pressure and preventing vibration or variation of air pressure. Where vacuum is used the long seal increases the strength of the vacuum, making a steadier and more positive action.

POSITIVE ACTION GUARANTEED

This curved lever connection is attached to one vane and operates as the piston revolves in the cylinder. It adjusts automatically and pushes the **steel** vanes out in contact with the curved wall of the cylinder. In operation the **steel** vanes adjust themselves by means of centrifugal force combined with the action of this quiet Automatic Vane Adjuster. The **steel** vanes, as they revolve, maintain perfect contact with the inner curved surface of the cylinder. The use of this unique, patented adjuster makes it impossible for the vanes in this pump to stick or bind.



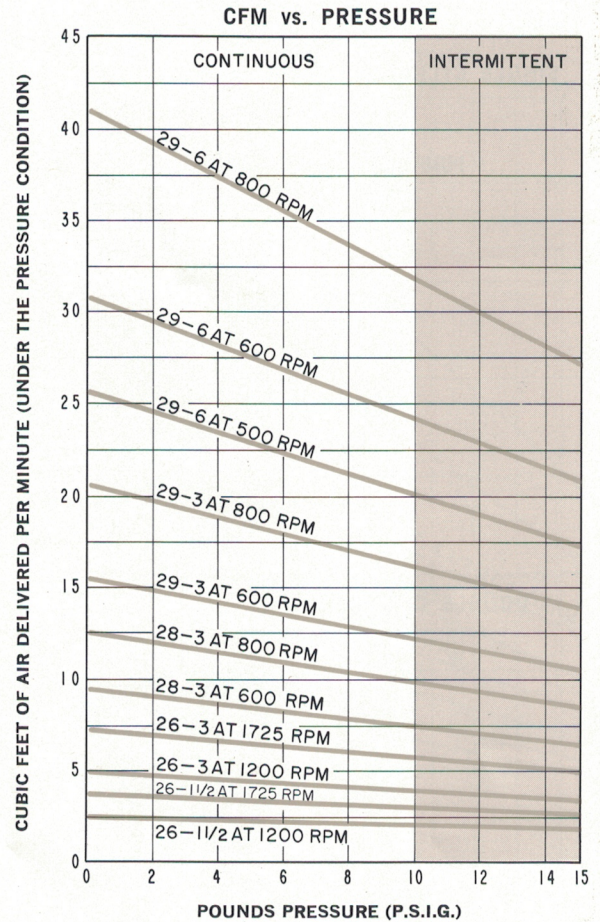
2-STRAIGHT VANE PRESSURE PUMPS

PUMP SIZE	C.F.M.	R.P.M.	PRESSURE P.S.I.G.		H.P.
			INT.†	CONT.	
26-1½	2.4	1200	15	10	.25
26-1½	3.6	1725	15	10	.5
26-3	4.8	1200	15	10	.5
26-3	7.2	1725	15	10	.75
28-3	9.3	600	15	10	1
28-3	12.4	800	15	10	1.5
29-3	15.3	600	15	10	1.5
29-3	20.4	800	15	10	1.9
29-6	25.5	500	15	10	2.3
29-6	30.6	600	15	10	2.7
29-6	40.8	800	15	10	3.6

†INT. = Intermittent — time on equals time off — not to exceed 30 minutes.

CONT. = Continuous.

NOTE — For pressure over 10 P.S.I.G. cooling fans are recommended.
For pressure to 45 P.S.I.G. see page 12.

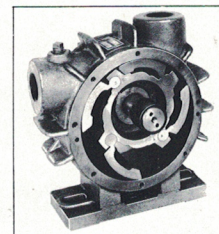


DIMENSIONS in inches

Dim. Letter		A	B	C	D	E	F	G	J	K	N	O	P	R	U	W	X	Y	Keyway	Bolts	Type Brg.	Weight Lbs.
AIR COOLED	26-1½	3¼	2¾	5⅞	2¾	2¾	2⅞	3⅞	¾	1½	1½	4⅞	3⅞	2¾	½	—	1⅞	—	Flat	¼	B	8
	26-3	3¼	4⅞	6⅞	2¾	2¾	3¼	4⅞	½	3	1½	5⅞	3⅞	2¾	½	—	1⅞	—	Flat	¼	B	13
	28-3	6¾	5⅞	9¼	4⅞	5⅞	4⅞	6	¾	3	2¾	7⅞	7⅞	3⅞	¾	3⅞	1⅞	5¾	¾	¾	R	38
	29-3	7⅞	6¼	11⅞	5⅞	6⅞	5¼	7⅞	1	3	3	9½	9⅞	4¾	1	4⅞	1⅞	6⅞	¼	¾	R	51
	29-6	7⅞	6¼	14⅞	5⅞	6⅞	5¼	9¼	1½	6	3⅞	9⅞	9⅞	6⅞	1	4¾	1⅞	6⅞	¼	¾	R	68

NOTE: B=Ball Bearings R=Roller Bearing

4-CURVED VANE VACUUM PUMPS



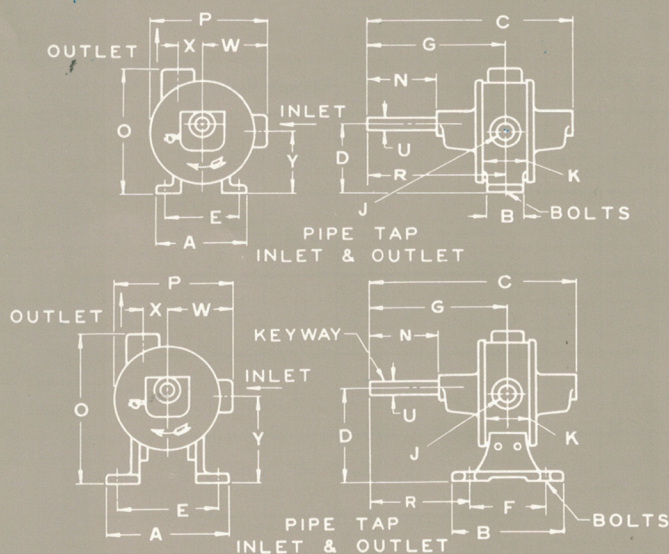
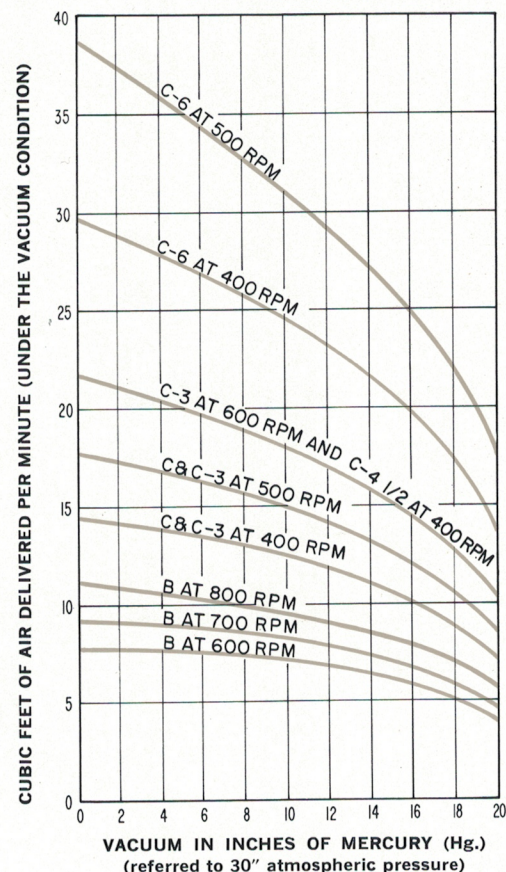
SINGLE CYLINDER

PUMP SIZE	C.F.M.	R.P.M.	VACUUM INCHES Hg. CONTINUOUS	H.P.
B	8.5	600	20	.56
B	10	700	20	.66
B	11.4	800	20	.80
C	15	400	20	.90
C	18	500	20	1.2
C-3	22	600	20	1.4
C-6	30	400	20	1.8
C-6	37	500	20	2.3

DOUBLE CYLINDER

B-2x2	8.5	8.5	600	20	1.5
B-2x3	8.5	12.7	600	20	2.0
C-3x3	15	15	400	20	2.0
C-3x4½	15	22.5	400	20	3.0
C-3x6	15	30	400	20	3.0
C-4½x6	22.5	30	400	20	5.0

CFM vs. VACUUM



SINGLE CYLINDER — DIMENSIONS in inches

Dim. Letter	B	C	C-3	C-6
A	6	6⅜	7⅜	8¾
B	1⅞	2¾	2⅞	7⅝
C	10¾	12¼	10⅞	13⅞
D	4	4⅜	5⅞	6⅜
E	5	5¼	5¾	7
F	—	—	—	5¼
G	7¼	7¾	6⅝	8⅞
J	¾	1	1	1½
K	2	3	3	6
N	3¼	3¼	3¼	3¼
O	7⅜	8½	9⅞	10⅞
P	6⅜	8⅞	8⅞	9⅞
R	7¼	7¾	6⅝	5⅞
U	1⅞	1⅞	1	1
W	3⅞	4½	4⅞	4⅞
X	1¼	1⅜	1⅞	1⅞
Y	3⅞	4⅞	6½	8⅞
Keyway	Flat	⅜	¼	¼
Bolts	⅜	½	½	⅜
Type Brg.	C or S	C	R	R
Weight Lbs.	27	42	42	67

NOTE: C = Cast-Iron Felt Packed Bearing S = Stuffing Box Type R = Roller Bearing Type

4-CURVED VANE PRESSURE PUMPS

SINGLE CYLINDER

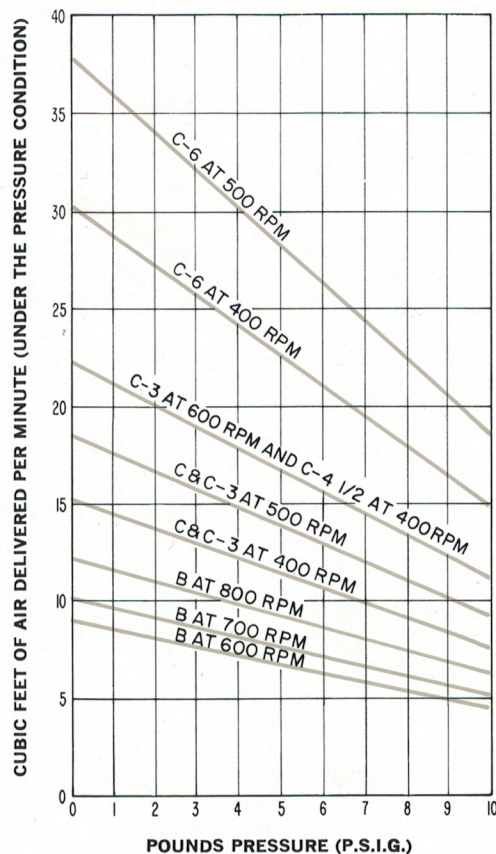
PUMP SIZE	C.F.M.	R.P.M.	PRESSURE P.S.I.G. CONTINUOUS	H.P.
B	8.5	600	10	.65
B	10	700	10	.75
B	11.4	800	10	.88
C	15	400	10	1.0
C	18	500	10	1.4
C-3	22	600	10	1.6
C-6	30	400	10	2.0
C-6	37	500	10	2.5

DOUBLE CYLINDER

B-2x2	8.5	8.5	600	10	1.5
B-2x3	8.5	12.7	600	10	2.0
C-3x3	15	15	400	10	2.0
C-3x4 1/2	15	22.5	400	10	3.0
C-3x6	15	30	400	10	3.0
C-4 1/2 x 6	22.5	30	400	10	5.0

NOTE: For double cylinder performance curves refer to corresponding single cylinder models.

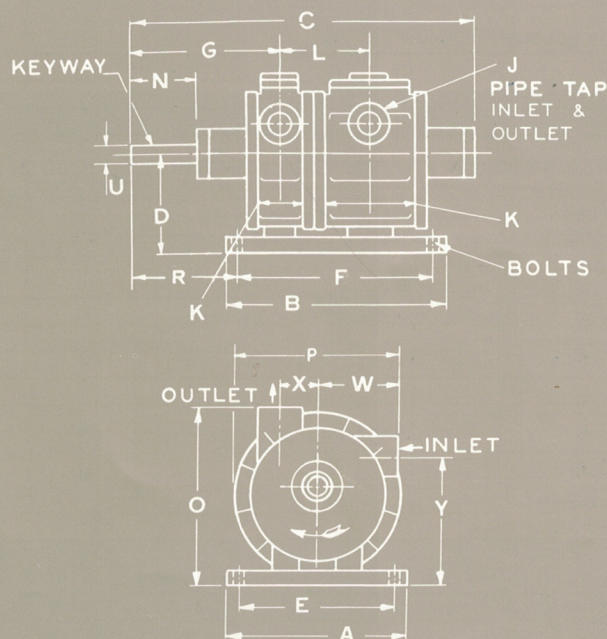
CFM vs. PRESSURE



DOUBLE CYLINDER — DIMENSIONS in inches

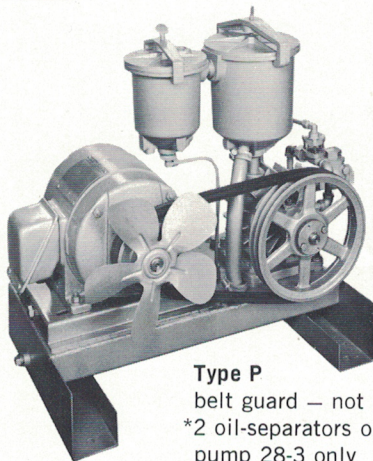
Dim. Letter	B- 2 x 2	B- 2 x 3	C- 3 x 3	C- 3 x 4 1/2	C- 3 x 6	C- 4 1/2 x 6
A	6 3/4	6 3/4	7	8	7	8
B	5 3/8	5 3/8	10 1/4	12	12	14
C	13 1/2	14 1/2	14 5/8	16 1/8	18 1/8	19 1/2
D	4 3/32	4 3/32	5 1/8	5 1/8	5 1/8	5 1/8
E	5 1/16	5 1/16	6	6	6	6
F	4 5/8	4 5/8	9 1/4	11	11	13
G	7 1/2	7 1/2	7	7	7 1/2	8 3/32
J	3/4	3/4	1	1	1	1
K	2 & 2	2 & 3	3 & 3	3 & 4 1/2	3 & 6	4 1/2 & 6
L	2 1/2	3 1/2	4 1/8	4 7/8	5 5/8	6 3/8
N	4	4	3 1/8	3 1/8	4 1/8	4 1/2
O	7 3/8	7 3/8	9 3/8	9 1/2	9 5/8	9 5/8
P	7 5/16	7 5/16	8 15/16	9	9 1/8	9 1/8
R	6 5/8	7 3/32	4 7/8	4 3/8	5 1/8	5 1/4
U	1 3/16	1 3/16	1	1	1 1/8	1 1/8
W	3 7/8	3 7/8	4 5/8	4 5/8	4 11/16	4 11/16
X	1 1/4	1 1/4	1 15/16	1 15/16	1 15/16	1 15/16
Y	3 7/8	3 7/8	6 13/16	6 13/16	6 13/16	6 13/16
Keyway	Flat	Flat	1/4	1/4	1/4	1/4
Bolts	3/8	3/8	1/2	1/2	1/2	1/2
Type Brg.	C	C	R	R	R	R
Weight Lbs.	42	58	85	100	130	145

NOTE: C = Cast-Iron Felt Packed Bearing R = Roller Bearing Type



HIGH VACUUM PUMPS

FAN COOLED



Type P
belt guard — not shown
*2 oil-separators on
pump 28-3 only

PUMP SIZE		26-1½		26-3		28-3	
C.F.M.		2.4	3.6	4.8	7.2	9.3	12.4
R.P.M.		1200	1725	1200	1725	600	800
VACUUM INCHES Hg.	at 24"	.29	.35	.44	.64	.75	.78
	at 27"	.25	.40	.48	.71	.84	.98
	at 29.9"	.26	.42	.52	.75	.88	1.15
Horsepower		.5		.75		1	

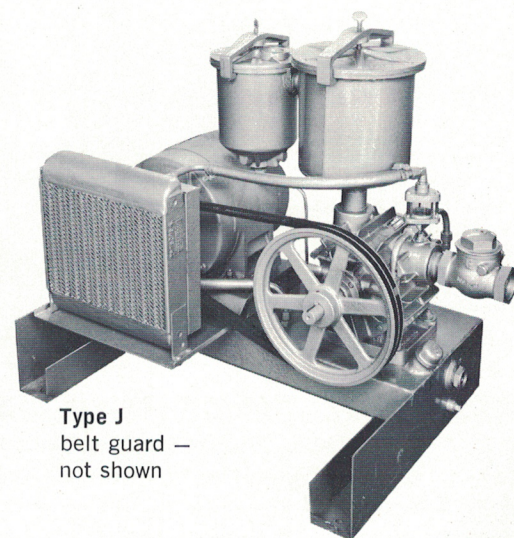
SPECIFICATIONS

Straight vane rotary pumps
24" to 29.9" Hg. continuous

RADIATOR COOLED

PUMP SIZE		29-3		29-6				100				107			
C.F.M.		15.3	20.4	25.5	30.6	40.8	50.1	75	85	100	115	125	150	175	200
R.P.M.		600	800	500	600	800	1000	600	700	800	900	1000	600	700	800
VACUUM INCHES Hg.	at 24"	1.15	1.45	1.61	1.94	2.58	2.70	3.6	4.2	5.0	5.8	6.9	7.3	8.6	9.9
	at 27"	1.25	1.69	1.73	2.07	2.75	2.90	4.9	5.7	6.3	7.0	7.4	7.6	9.1	10.3
	at 29.9"	1.30	1.77	1.8	2.15	2.87	3.7	5.5	6.4	7.0	7.4	8.5	7.8	9.3	10.5
Horsepower		2		2 to 5				5 to 10				7.5 to 15			

Note — do not operate below 24" Hg.



Type J
belt guard —
not shown

DIMENSIONS in inches for type P (fan cooled) or type J (radiator cooled)

PUMP SIZE	26-1½	26-3	28-3	29-3	29-6	100	107
DIM. A	16	16	23	30¼	30¼	39	39
B	13	13	13	20½	20½	25	30
C	13	13	20	27¼	27¼	36	36
D	11	11	11	10¼	10¼	12¼	12¼
E	22	22	26	30½	30½	38½	43½
BOLTS	¾	¾	¾	½	½	¾	½
Inlet & Outlet pipe tap	¾	½	¾	1	1½	1½	3

See next page for High Pressure Pumps

These pumps are all of the rotary straight vane type — all air cooled and for continuous duty with a maximum vacuum of 29.9" Hg. when referred to a 30" barometer or pressure to 45 P.S.I.G.

The larger sizes as per figure J are equipped with a radiator cooling system described as follows:

The feature of this system is the use of **air-cooled** pumps for **continuous** duty (24 hours a day) while producing vacuums of 29.9" Hg. when referred to a 30" barometer (or within 1/10" of the barometer) or pressure to 45 P.S.I.G. Under these rugged operating conditions, the Leiman **air-cooled** pump remains **cool** — average temperature 140° F.

The low operating temperature is maintained by introducing to the pump a continuous and generous flow of pre-cooled lubricating oil of standard S.A.E. 30 viscosity. The oil before entering the pump is circulated through a fan cooled radiator for cooling purposes, and then into the pump and returned to the radiator where the oil temperature is again reduced.

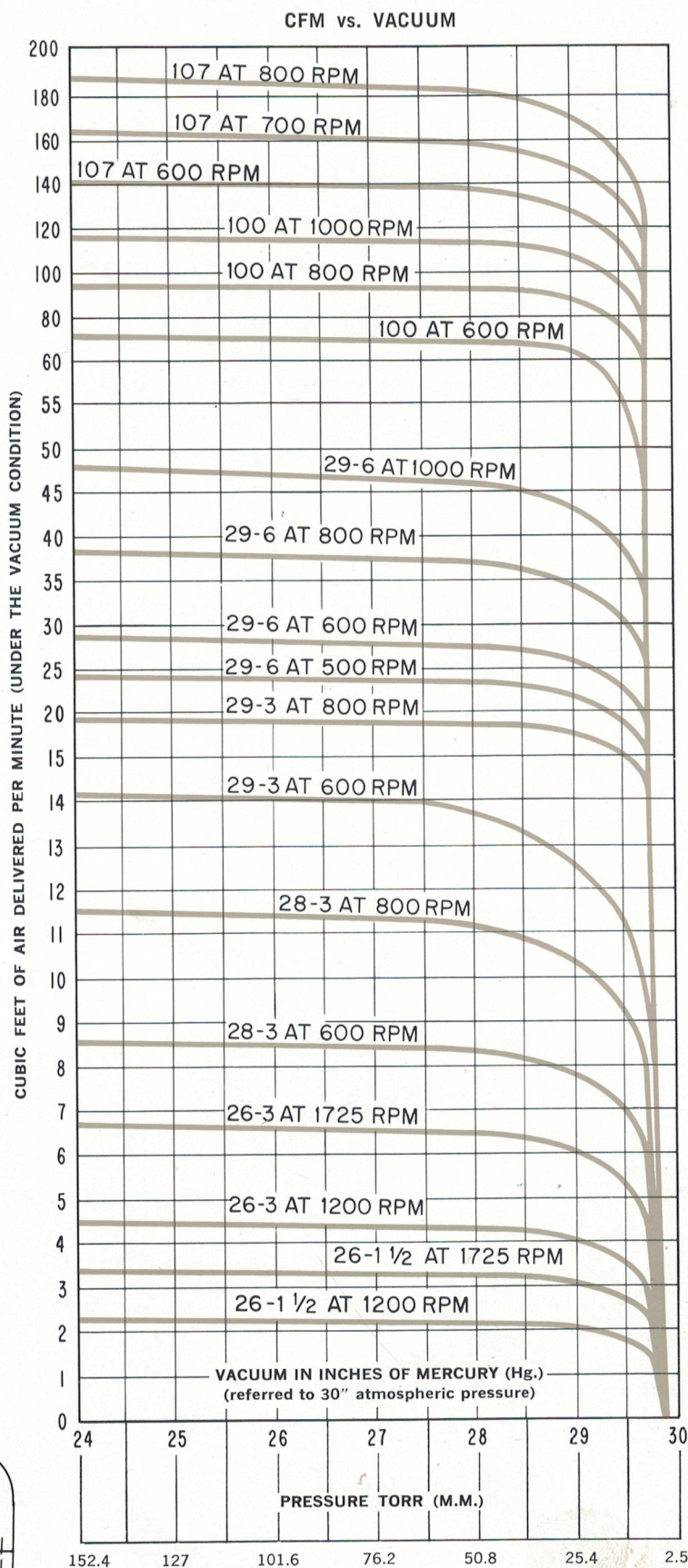
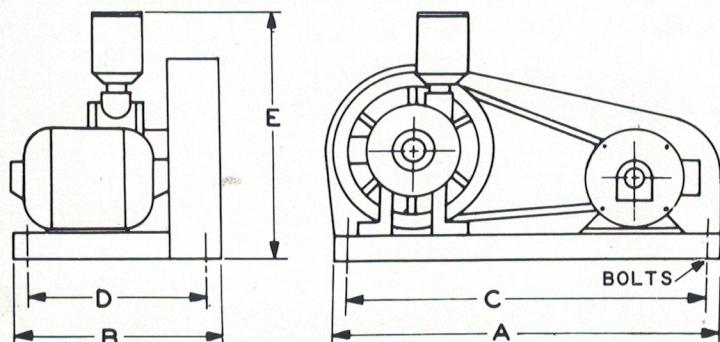
The introduction of cool oil into the interior of the pump reduces the heat on the pump parts and therefore keeps all parts uniform in temperature, prevents excessive metal expansion and eliminates the possibility of the pump overheating and jamming.

The low operating temperature combined with the radiator cooled oil serves many purposes. The oil provides a seal and the low temperature keeps the viscosity of the oil at a point where the best possible lubricating film is maintained. The lower operating temperature also prevents carbonization of the lubricating oil, which means that one filling of oil will last for a long duration, thereby reducing maintenance time.

The lower temperature increases the pump's volumetric efficiency and allows use of higher pump speeds, thereby enabling Leiman Bros. to provide greater air capacity with a pump considerably reduced in physical size over conventional pumps. In effect, you receive more for your money by reducing the cost of the initial investment.

Now here is the big news — **watercooling has been eliminated** — no more water pipes — no more wasteful use of water — no more possibility of the water pipes leaking and creating a mess — no more necessity to place the pump unit near available water supply. The new Leiman **air-cooled** pump can be placed where **you** want it.

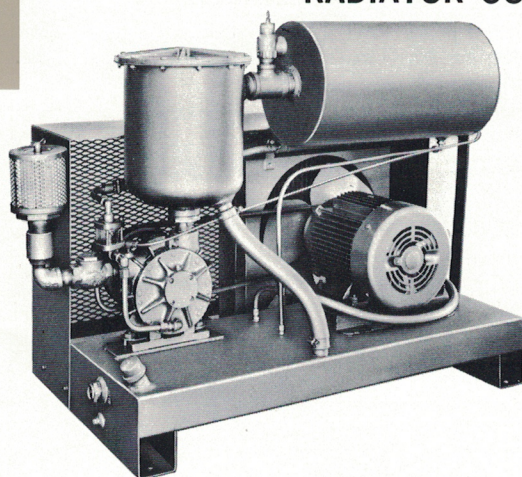
The three smaller sizes (26-1½, 26-3 and 28-3) as per figure P, are fan cooled. They do not require the radiator system. Their operating temperature under constant duty averages only 140° F.



See next page for High Pressure Pumps

HIGH PRESSURE PUMPS

RADIATOR COOLED



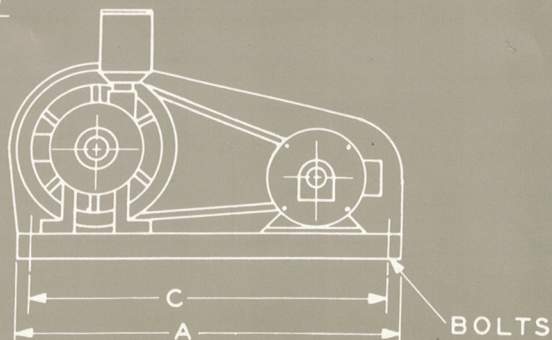
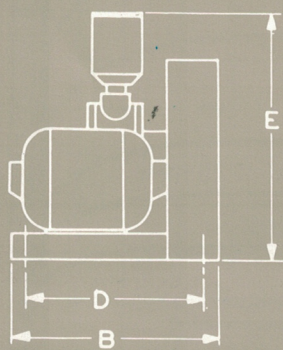
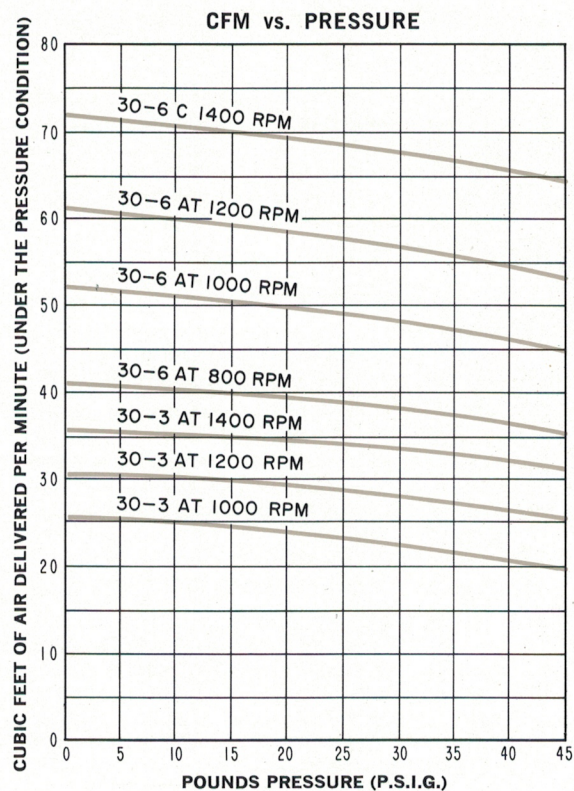
Type JP
belt guard — not shown

SPECIFICATIONS

Straight vane rotary pumps
Pressure to 45 P.S.I.G.

MODEL		30-3				30-6			
C.F.M.		25	30	36	41	51	61.5	72	
R.P.M.		1000	1200	1400	800	1000	1200	1400	
PRESSURE P.S.I.G.	at 15 lb.	2.2	2.7	3.1	3.5	4.3	5.4	6.4	
	at 30 lb.	3.1	5.0	5.6	5.6	7.1	8.7	10.3	
	at 45 lb.	5.0	6.3	7.5	8.0	10.0	12.0	14.2	
H.P.		5 to 7.5				10 to 15			

For pressure higher than 45 P.S.I.G. write to factory.

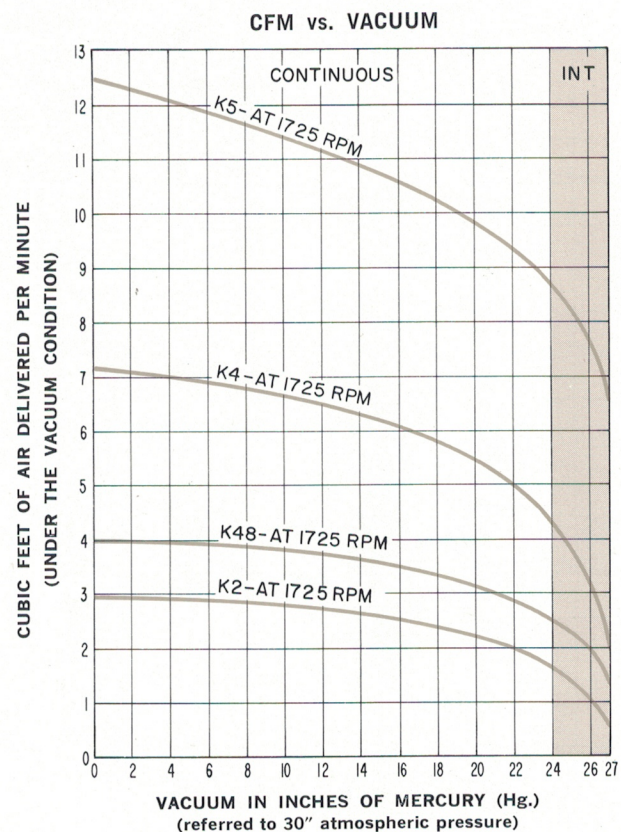


PUMP SIZE	30-3 30-6
MOTOR H.P.	5 to 15
DIM. A	39
B	25
C	36
D	12 $\frac{1}{4}$
E	38 $\frac{1}{2}$
BOLTS	$\frac{3}{16}$
Inlet and Outlet Pipe Tap	1 $\frac{1}{2}$

INTEGRAL LUBRICATED VACUUM PUMPS

PUMP SIZE	C.F.M.	R.P.M.	VACUUM INCHES Hg.		H.P.
			INT.†	CONT.	
K-2	3	1725	27	24	1/4
K-48	4	1725	27	24	1/3
K-4	7.2	1725	27	24	1/2
K-5	12.5	1725	27	24	3/4

†INT. = Intermittent — time on equals time off — not to exceed 30 minutes
CONT. = Continuous

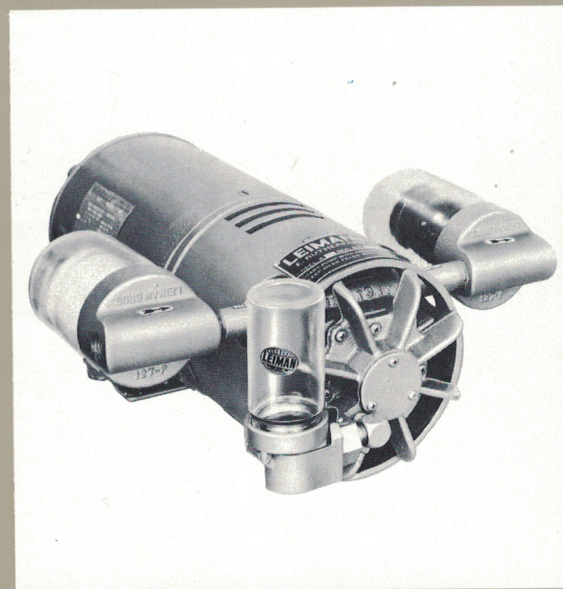


This compact, space-saving Rotary Pump is available in four models.

The cast iron housing and rotor, with free sliding vanes guarantee life-long dependability and rugged operation.

- compact — space saving (eliminates mounting costs)
- continuous 24-hour operation
- automatic thermal overload protection (1 phase only)
- noiseless (rubber mounted)
- fan cooled
- anti-friction bearings

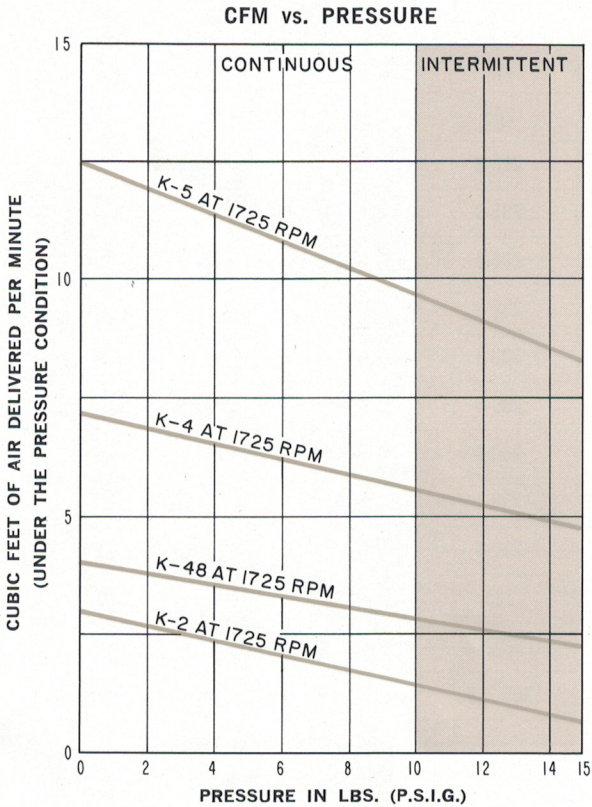
Type N — 27" vacuum or
15 lb. pressure with E113-4
automatic oiler, inlet air filter,
outlet oil filter and silencer.



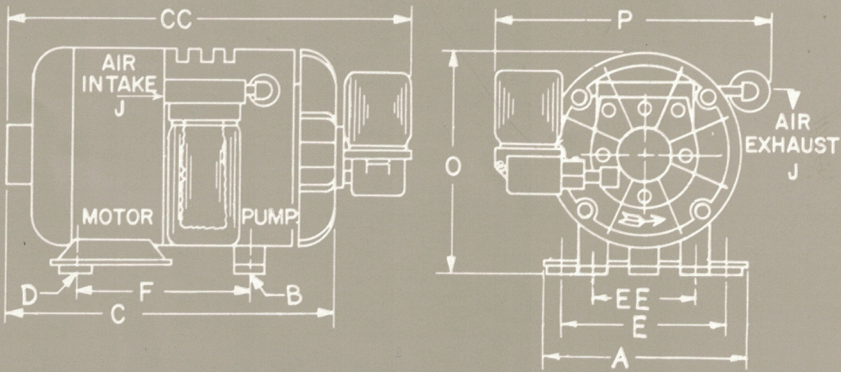
INTEGRAL LUBRICATED PRESSURE PUMPS

PUMP SIZE	C.F.M.	R.P.M.	PRESSURE P.S.I.G.		H.P.
			INT.†	CONT.	
K-2	3	1725	15	10	1/4
K-48	4	1725	15	10	1/3
K-4	7.2	1725	15	10	1/2
K-5	12.5	1725	12	10	3/4

†INT. = Intermittent — time on equals time off — not to exceed 30 minutes
CONT. = Continuous



DIMENSIONS in inches				
Dim. Letter	K-2	K-48	K-4	K-5
A	5 5/8	5 5/8	6 1/2	6 1/2
B	1/4-20	1/4-20	1/4-20	1/4-20
C	9 5/8	9 15/16	15 7/16	19 1/4
CC	13	13 5/16	17 1/2	22 1/2
D	5/16-18	5/16-18	5/16-18	5/16-18
E	4 1/4	4 1/4	4 7/8	4 7/8
EE	—	—	—	3 1/2
F	4 5/16	4 5/16	7 29/32	11
J	1/4	3/8	1/2	1/2
O	7	7	8 3/4	9 1/2
P	10 1/2	10 1/2	12 1/2	12 1/2
Wt. Lbs.	27	29	49	65



ROTARY OIL-LESS VACUUM PUMPS

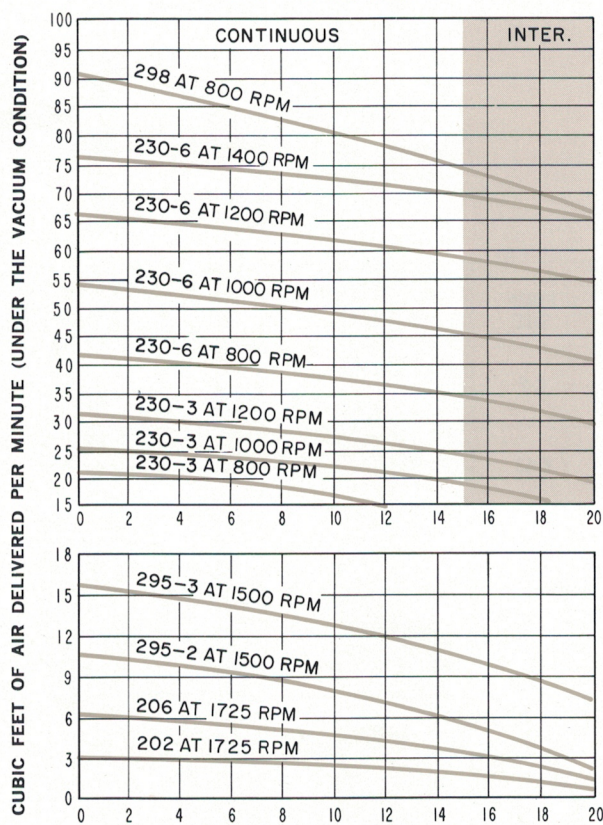
PUMP SIZE	C.F.M.	R.P.M.	VACUUM INCHES Hg.		H.P.
			INT.†	CONT.	
202	3	1725	22	20	.4
206	6	1725	22	20	.5
295-2	10.3	1500	24	20	1.0
295-3	15.2	1500	24	20	1.5
230-3	20	800	20	15	1.2
230-3	25	1000	24	15	1.7
230-3	31	1200	24	15	2.3
230-6	41	800	22	15	2.3
230-6	53	1000	24	15	2.7
230-6	65	1200	24	15	3.1
230-6	75	1400	25	15	3.5
298	90	800	15	15	4.0
295-2x2	10.3	10.3	1500	20	1.5
295-2x3	10.3	15.2	1500	20	1.5

For higher capacity (C.F.M.) write to factory.

†INT. = Intermittent — time on equals time off — not to exceed 30 minutes

CONT. = Continuous

CFM vs. VACUUM



VACUUM IN INCHES OF MERCURY (Hg.)
(referred to 30" atmospheric pressure)

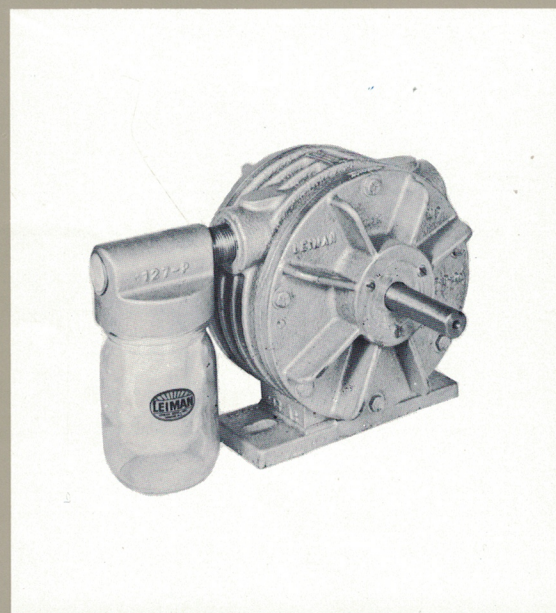
All performance curves for oil-less pumps are subject to approximately 10% variation.

Capacities of 1 to 90 CFM

Vacuum to 20" Hg. steady and 25" Hg. intermittent
Pressure to 15 P.S.I.G.

FEATURES

- No oil in cylinder. Delivered air is positively OIL-FREE
- Sealed bearings spaced from cylinder
- Four vanes take up own wear
- Includes inlet filter
- Vacuum and pressure remain constant
- Cylinder and rotor are cast iron, vanes are carbon
- Gastite optional



ROTARY OIL-LESS PRESSURE PUMPS

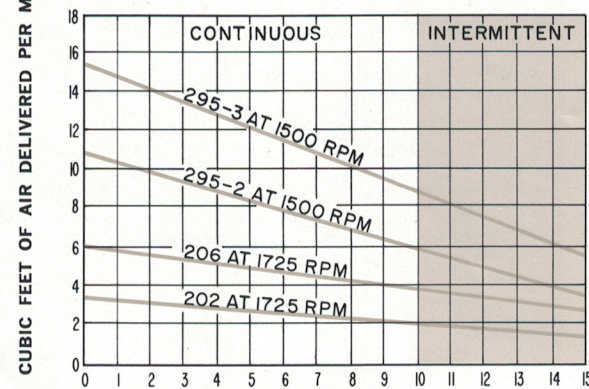
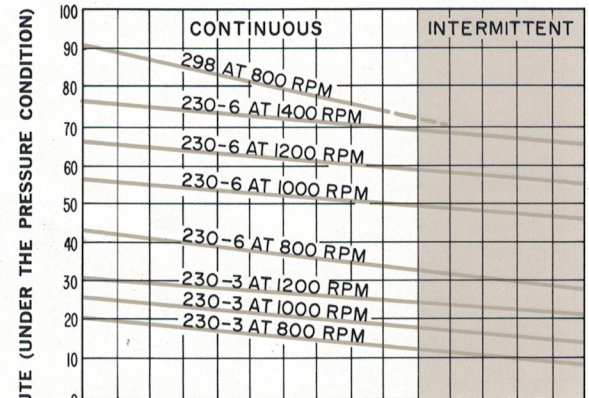
PUMP SIZE	C.F.M.		R.P.M.	PRESSURE (P.S.I.G.)		H.P.
				INT.†	CONT.	
202	3		1725	10	10	.6
206	6		1725	10	10	.7
295-2	10.3		1500	10	10	1.4
295-3	15.2		1500	15	10	1.7
230-3	20		800	15	10	2.0
230-3	25		1000	15	10	2.6
230-3	31		1200	15	10	3.2
230-6	41		800	15	10	3.0
230-6	53		1000	15	10	4.0
230-6	65		1200	15	10	5.0
230-6	75		1400	15	10	6.0
298	90		800	12	8	6.3
295-2x2	10.3	10.3	1500	10	10	2.0
295-2x3	10.3	15.2	1500	10	10	2.0

†INT. = Intermittent — time on equals time off — not to exceed 30 minutes

CONT. = Continuous

NOTE: For double cylinder performance curves refer to corresponding single cylinder models.

CFM vs. PRESSURE

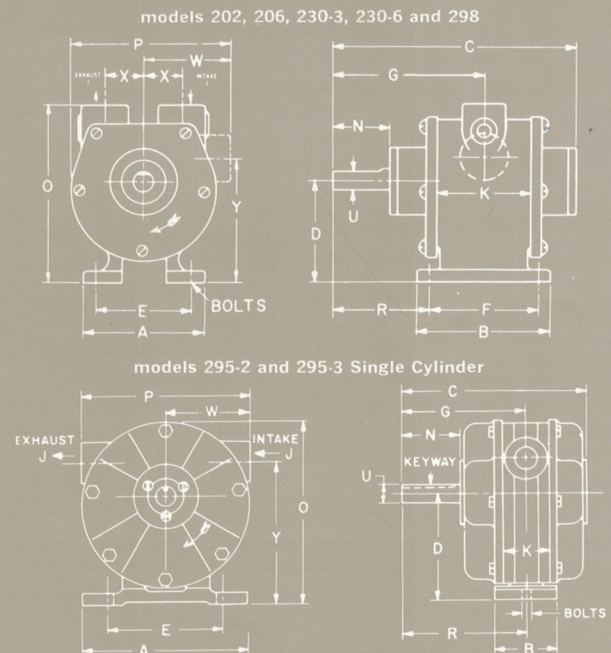


POUNDS PRESSURE (P.S.I.G.)

All performance curves for oil-less pumps are subject to approximately 10% variation.

Dim. Letter	DIMENSIONS in inches						
	202	206	295-2	295-3	230-3	230-6	298
A	3 1/4	3 1/4	7	7	7 3/8	7 7/8	13
B	2 3/4	4 3/8	2 5/8	2 5/8	3	6 1/4	11 1/8
C	5 7/8	7 3/8	8 1/2	9 1/2	18	20	14 1/4
D	2 3/4	2 3/4	4 1/2	4 1/2	5 1/16	5 1/16	7 15/16
E	2 3/16	2 3/16	5	5	5 3/4	6 13/16	10 1/2
F	2 1/8	3 3/4	—	—	—	5 1/4	9 1/2
G	3 11/16	4 1/16	5 19/32	6 19/32	8 1/2	10	8 7/8
J	3/8	1/2	3/4	3/4	1	1 1/2	1 1/2
K	1 1/2	3	2	3	3	6	6
N	1 1/2	1 1/2	2 11/16	2 11/16	3 1/2	3 1/2	3 1/2
O	4 13/16	5 1/16	7 11/16	7 11/16	9 1/16	9 5/8	14 7/8
P	3 5/8	3 5/8	7	7	9	9	13 3/8
R	2 5/8	2 1/16	5 19/32	6 19/32	8 1/2	7 3/8	4 1/8
U	1/2	1/2	3/4	3/4	7/8	7/8	1 1/4
W	1 13/16	1 13/16	3 1/2	3 1/2	4 1/2	4 1/2	7 3/8
X	1 5/16	1 1/16	—	—	—	—	—
Y	—	—	6 1/8	6 1/8	6 1/2	6 13/16	7 1/4
Keyway	Flat	Flat	3/16	3/16	3/16	3/16	1/4
Bolts	1/4	1/4	3/8	3/8	1/2	1/2	1/2
Type Bearings	B	B	B	B	B	B	B
Weight Lbs.	8	13	25	33	50	84	179

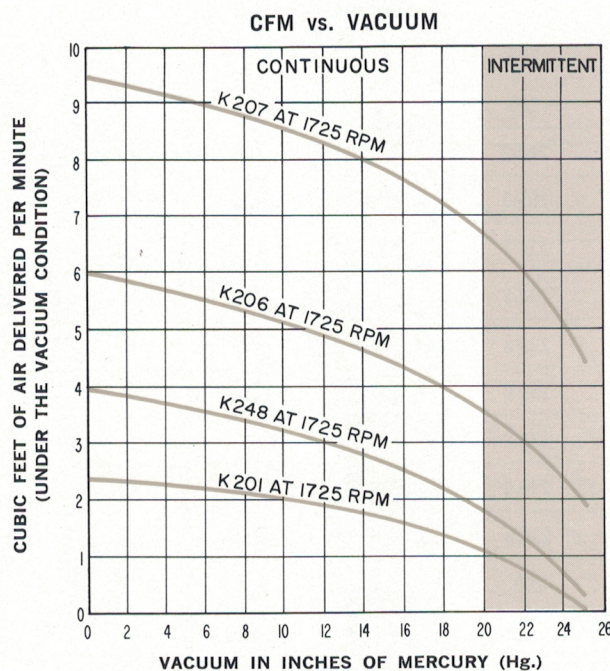
B = Ball Bearings



INTEGRAL OIL-LESS VACUUM PUMPS

PUMP SIZE	C.F.M.	R.P.M.	VACUUM INCHES Hg.		H.P.
			INT.†	CONT.	
K-201	2.4	1725	25	20	1/4
K-248	4	1725	25	20	1/3
K-206	6	1725	25	20	1/2
K-207	9.5	1725	25	20	3/4

†INT. = Intermittent — time on equals time off — not to exceed 30 minutes
CONT. = Continuous



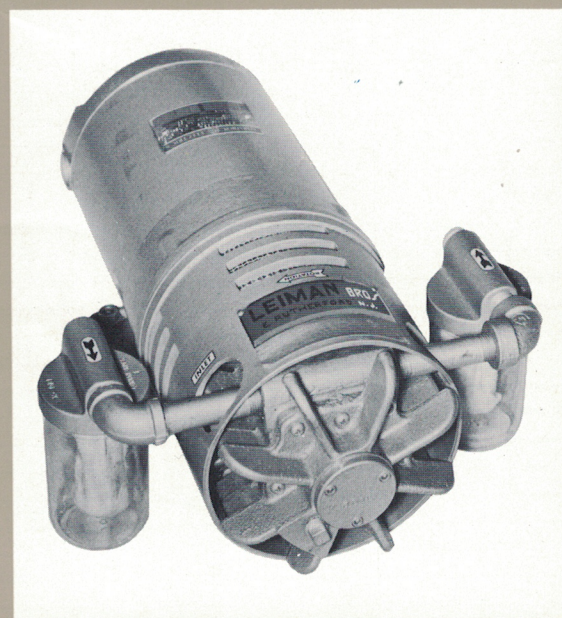
All performance curves for oil-less pumps are subject to approximately 10% variation.

FEATURES

- No oil in cylinder. Delivered air is positively OIL-FREE
- Sealed bearings spaced from cylinder
- Four vanes take up own wear
- Vacuum and pressure remain constant
- Cylinder and rotor are cast iron, vanes are carbon
- Compact — space saving (eliminates mounting costs)
- Automatic thermal overload protection
- Noiseless (rubber mounted)
- Ball bearings
- Fan cooled
- Inlet air filter
- Outlet filter

These rotary positive non-lubricated vacuum and pressure pumps are equipped with sealed bearings, therefore cylinder is absolutely void of any lubrication. The air coming from the exhaust is oilfree and may be applied on a great many applications where a lubricated pump is not practical.

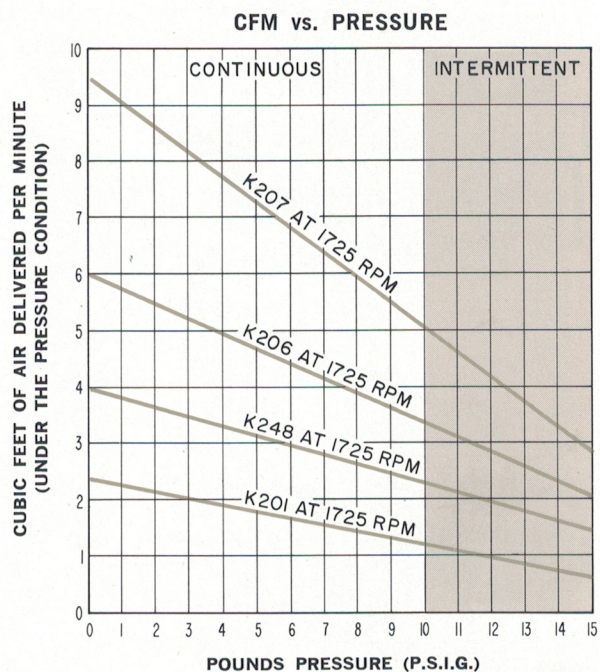
Four free sliding vanes are used and slots and cylinder are honed to a glassy smooth surface having an extremely low coefficient of friction. The vanes take up their own wear and pumps are most compact in design. Some typical needs would be food handling equipment, paper manufacturing, textiles, pumping oxygen, etc.



INTEGRAL OIL-LESS PRESSURE PUMPS

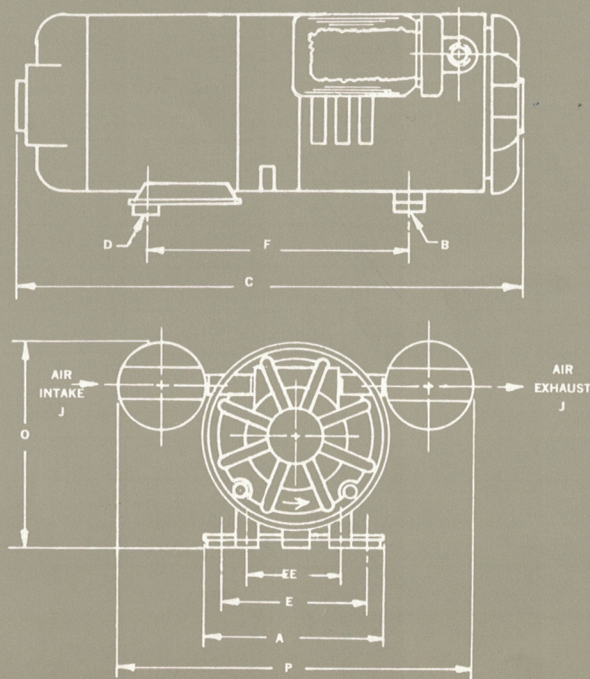
PUMP SIZE	C.F.M.	R.P.M.	PRESSURE P.S.I.G.		H.P.
			INT.†	CONT.	
K-201	2.4	1725	15	10	¼
K-248	4	1725	15	10	⅓
K-206	6	1725	15	10	½
K-207	9.5	1725	12	10	¾

†INT. = Intermittent — time on equals time off — not to exceed 30 minutes
CONT. = Continuous



All performance curves for oil-less pumps are subject to approximately 10% variation.

DIMENSIONS in inches				
Dim. Letter	K-201	K-248	K-206	K-207
A	5⅝	5⅝	6½	6½
B	¼-20	¼-20	¼-20	¼-20
C	9⅝	9⅝	17¼	20
D	⅝-18	⅝-18	⅝-18	⅝-18
E	4¼	4¼	4⅞	4⅞
EE	—	—	—	3½
F	4⅞	4⅞	10⅞	11
J	¼	⅜	½	½
O	7	7	9⅞	9½
P	10½	10½	13¼	14
Wt. Lbs.	27	27	49	62



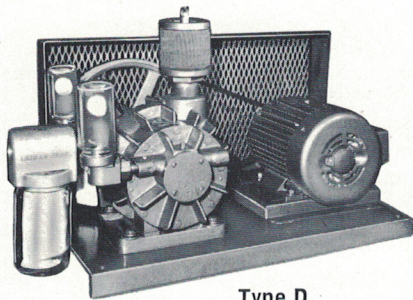
STANDARD MOTOR-DRIVEN PRESSURE AND VACUUM PUMPS

(may be ordered less motors)

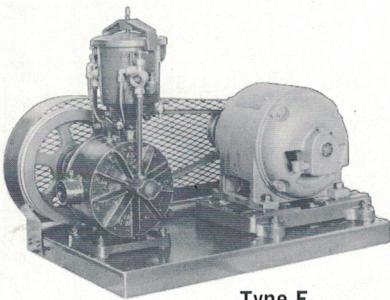
All Leiman air pumps can be supplied as a base mounted motor driven unit complete with V-belts, pump motor pulleys and belt guard.

Standard accessories on all models include oiler as pictured for lubricated units, plus relief valve, gauge and outlet muffler.

Inlet filters are included on pump sizes: 20 195-2 30-3 100
23 SW-14 30-6 and all oilless models.



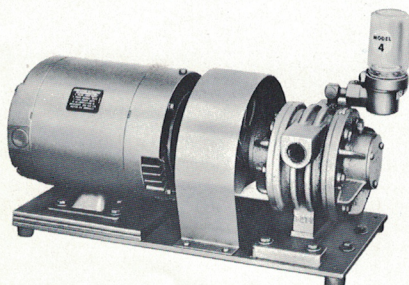
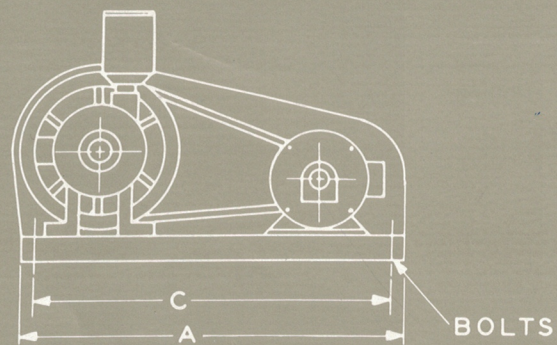
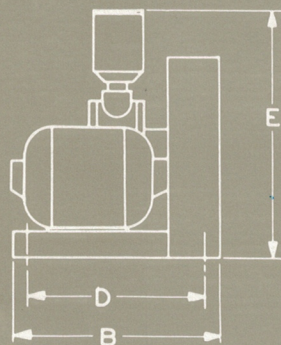
Type D
Motor driven base
unit with Oiler.



Type E
Motor driven base
unit with Automatic
Oiling System.

DIMENSIONS in inches

pump size →	202 206 23 20 26-1½ 26-3	230-3 SW-14 295 26-3 28-3 195-2 B C & C-3 30-3 29-3	29-6 30-6 C-6 230-6	100 298	107
motor h.p. →	¼ to ½	¼ to 2	2 to 5	3 to 10	5 to 15
A	16	21	25	36	36
B	11	10	12	12	22½
C	15	19½	23⅝	34⅝	33
D	7¼	8½	10½	10½	21
E	16	21⅝	25⅝	36¼	39
F	12	13	15½	18½	22½
G	8	12⅝	14⅝	18½	22
bolts	⅜	⅜	⅜	⅜	½
largest NEMA frame size	—	145	184	215	254



Type G
Direct Coupled
Unit.

DIMENSIONS in inches

size of pump	202 20 26-1½	206 23 26-3	195-2	SW-14
length	17	21	17	
width	8	10	8	
height	20	12½	12	

GAS BOOSTERS

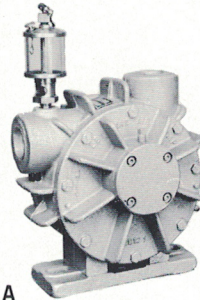
NOTE: All Leiman pumps may be used for gas boosting — for model not shown write to factory for information.

The Leiman Gas Booster was developed for pumping city gas, natural gas, and other non-corrosive gases. Where the normal pressure of city gas is too low for use in manufacturing operations a Leiman Gas Pump will produce a smooth, steady, and constant pressure at the outlet regardless of any variations in the entering pressure.

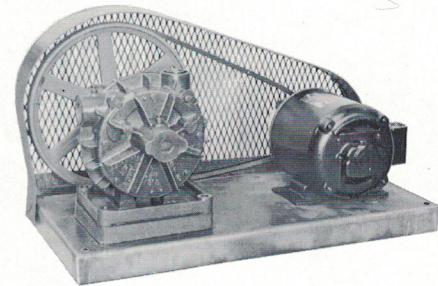
In the natural gas industry Leiman Air Pumps are used to force the gas into the pipe lines. Very often a non-producing well has been brought back through the use of a Leiman Gas Pump to create a suction which starts the gas flowing again.

Where a manufacturing operation requires the gas to be mixed with air for use in blow torches, gas furnaces, etc., the solution is a Leiman unit consisting of a gas pump and an air pump to furnish the air.

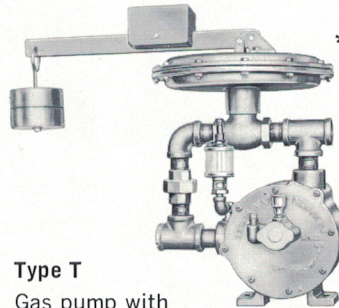
Bearings are equipped with gastite shaft seal.



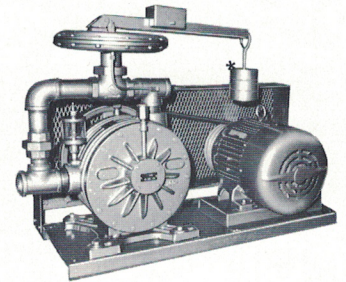
Type A
Bare gas pump with oil cup.



Type D
Bare gas pump unit with motor drive.



Type T
Gas pump with diaphragm valve and by-pass.



Type M
Motor-driven gas pump unit with diaphragm valve and by-pass.

DIMENSIONS in inches

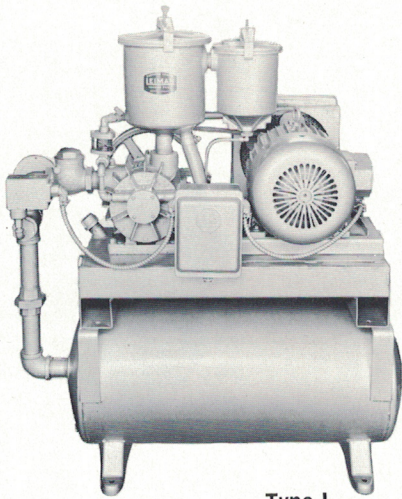
size of gas booster	26-1½ 20	26-3 23	195-2		30-3		30-6		100			107		
C.F.M.	3.6	7.2	11	15.4	20	30	40	50	75	100	125	150	175	200
R.P.M.	1750	1750	1000	1400	800	1200	800	1000	600	800	1000	600	700	800
HORSEPOWER at 1 lb. (P.S.I.G.)	.25	.44	.20	.30	.7	1.2	1.0	1.3	2.2	3.4	4.6	4.4	6.0	6.8
HORSEPOWER at 5 lbs.* (P.S.I.G.)	.30	.50	.33	.48	1.1	1.5	1.5	1.8	3.3	4.5	5.7	6.6	7.3	9.0
HORSEPOWER at 10 lbs. (P.S.I.G.)	.50	.71	.59	.83	1.2	2.2	2.2	2.6	3.8	5.2	6.8	Not Recommended		
inlet and outlet pipe tap	¾	½	¾	¾	1	1	1½	1½	1½	1½	1½	3	3	3

*Diaphragm valve with by-pass — For maintaining non-varying pressures. Valve is extremely sensitive to pressure variations, however small. By-pass piping handles all the unused gas and automatically returns it to the inlet side of the pump thereby preventing overloading of motor and prolonging life of equipment.

For higher pressure and capacity write to factory.

AUTOMATICALLY CONTROLLED PUMPS

All units employ the use of a reservoir tank and supply vacuum or pressure automatically for instant use.



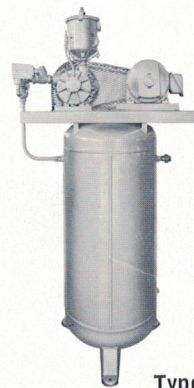
Type L

VACUUM

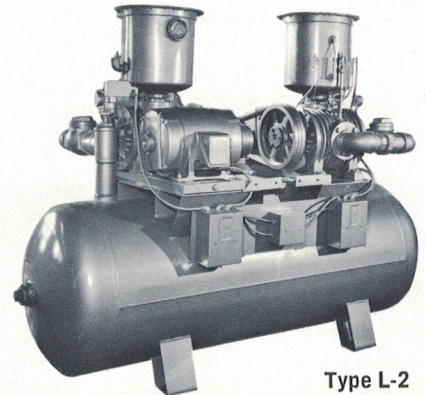
PUMP SIZE	C.F.M.	R.P.M.	VACUUM INCHES Hg.	H.P.
26-1½	2.4	1200	29	.26
26-1½	3.6	1725	29	.42
26-3	4.8	1200	29	.52
26-3	7.2	1725	29	.75
28-3	9.3	600	29	.88
28-3	12.4	800	29	1.15
29-3	15.3	600	29	1.30
29-3	20.4	800	29	1.77
29.6	30.6	600	29	2.15
29.6	40.8	800	29	2.87
29.6	50.1	1000	29	3.0
100	75	600	29	5.5
100	85	700	29	6.4
100	100	800	29	7.0
100	115	900	29	7.4
100	125	1000	29	8.5
107	150	600	29	7.8
107	175	700	29	9.3
107	200	800	29	10.5

PRESSURE

PUMP SIZE	C.F.M.	R.P.M.	PRESSURE P.S.I.G.	H.P.
26-1½	2.4	1725	20	.50
26-1½	3.6	1725	20	.56
26-3	4.8	1725	20	.88
26-3	7.2	1725	20	1.08
28-3	9.3	600	20	1.10
28-3	12.4	800	20	1.47
SW-14	11.5	1450	15	.75
SW-14	14.5	1725	15	1.50
195-2	16.5	1500	20	1.5
195-2	20	1725	20	20
29-3	15.3	600	20	1.71
29-3	20.4	800	20	2.28
29-6	30.6	600	20	3.27
30-6	40	800	20	4.35
30-6	50	1000	20	4.1
100	75	600	15	5.0
100	100	800	15	6.1
30-3	25	1000	45	5.0
30-3	30	1200	45	6.3
30-3	36	1400	45	7.5
30-6	41	800	45	8.0
30-6	51	1000	45	10.0
30-6	61.5	1200	45	12.0
30-6	72	1400	45	14.2
107	150	600	8	6.6
107	175	700	8	7.3
107	200	800	8	9.0



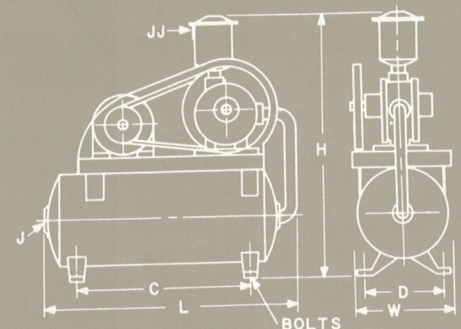
Type LV-1



Type L-2

DIMENSIONS in inches

size of pump	26-1½	26-3	SW-14 28-3 195-2	29-3 30-3	29-6 30-6	100	107
size of tank	10 x 20	14 x 25½	14 x 25½	16 x 38	16 x 38	20 x 48	24 x 69
H	37	33½	37	46	46	56	70
W	9½	15¾	15¾	21	21	20½	20¾
L	26	31	31	44	44	54	79
C	16½	14	14	22	22	30	39½
D	7⅞	14	14	16⅓⅙	16⅓⅙	18⅝	18¼
J	⅜	½	¾	½	1½	1½	3
JJ	½	½	½	1	1¼	1½	3
bolts	⅜	½	½	½	½	½	½
gallons	6.8	15	15	30	30	60	120



NOTE — All Leiman pumps are available as tank mounted units — for models not shown, write to factory for information.

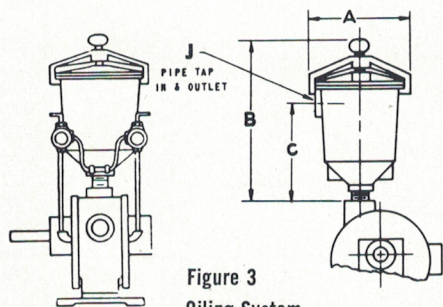


Figure 3
Oiling System

Feeds oil to pump automatically. Has adjusting valve on each oil-line. System operates only when pump runs.

PUMP SIZE

dimensions in inches	20 26-1½	23 26-3	SW-14 B 195-2 28-3	C C-3 29-3 30-3	C-6 29-6 30-6	100	107
A	5⅞	6⅞	6⅞	8⅞	9½	13	17½
B	9	9⅞	9½	12¼	13⅞	18¾	19
C	5¾	6	6	7⅞	8⅞	10¾	15
J	¾	½	¾	1	1½	1½	3

NOTE — These dimensions also apply to Inlet Filter No. 4 and Outlet Separator No. 5.

AUTOMATIC OILING SYSTEMS

FILTERS SEPARATORS

PUMP ACCESSORIES

OIL FILTERS AND SEPARATORS

Figure 4 — Inlet Filter

For use on the inlet of air pumps. Air or gas passing through the removable cloth bag deposits dirt and grit and prolongs the life of the pump.



Figure 5 — Outlet Separator

Replaceable filter material absorbs oil vapor from the pressure pump and prevents it from blowing into the working area.

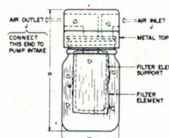
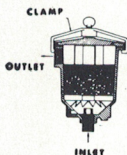


Figure 4A — Inlet Dust Filter

Cleans air before entering pump. Prevents damage to pump.

dimensions in inches

size of jar	8 oz.	Pint	Quart	1 Gal.
J	¾	½ & ¾	¾ & 1½	1½
W	3	3⅞	4	6⅞
H	5¼	6⅞	8	12⅞

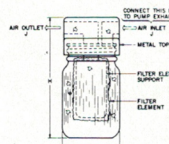


Figure 6 — Outlet Separator and Muffler

Separates oil from the air. Oil collects in bottom of glass jar. Glass jar good for 5 P.S.I. Over 5 P.S.I. metal container must be used.

Figure 12 — Automatic Oiler (E113-4)
3 ounce jar

LARGER SIZE 7 OZ. JAR AVAILABLE

Feeds oil from SAE 10 to 50 when the pump runs. Can be adjusted for oil level. No moving parts.

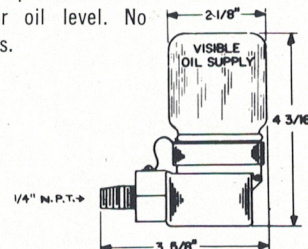
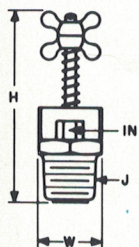


Figure 7 — Vacuum Relief Valve

An adjustable safety valve for vacuum up to 27 inches

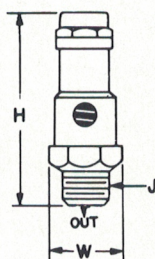


dimensions in inches

J	H	W
¾	3	1⅞
¾	4	1½
1¼	5⅞	2⅞

Figure 8A — Pressure Relief Valve

An adjustable safety valve for pressure up to 20 pounds.

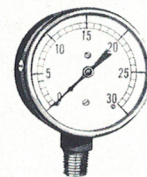


dimensions in inches

J	H	W
¾	3⅞	1¼
½	3⅞	1¼
1	5¼	2

Figure 13 — Air Gauge

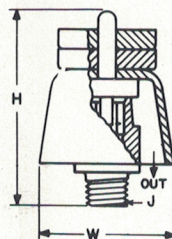
Indicates vacuum up to 30 inches or pressure to 30 lbs. Specify vacuum or pressure when ordering. ¼" pipe size only.



Application	Range	Dial Size
Vacuum	0-30	2½
Vacuum	0-30	3½
Pressure	0-30	2½

Figure 8 — Pressure Relief Valve

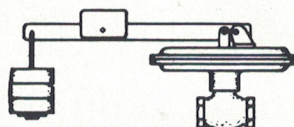
A weighted safety valve for pressure up to 5 pounds.



dimensions in inches

J	H	W
½	4⅞	3
1	6	3
1¼	6⅞	3¾
1½	6⅞	3¾

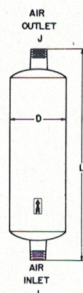
Figure 10
Diaphragm Valve with By-pass



Sensitive valve for close regulation of gas up to 20 pounds.

Figure 11A — Silencer

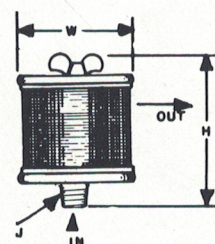
Muffler (silencer) reduces the air noise of pump and absorbs some of the oil.



dimensions in inches

J	D	L	Net Wt.
1	4½	22	6
1½	6½	24	9
2	8	32	21

Figure 14 — Mufflers



dimensions in inches

J	H	W
1	5⅞	3⅞
1½	6¼	3⅞
2	7¼	4⅞
2½	7⅞	5½

Mufflers reduce the noise and also absorb some oil. Usually used on vacuum pump outlet, or pressure pump inlet.

ROTARY AIR MOTORS

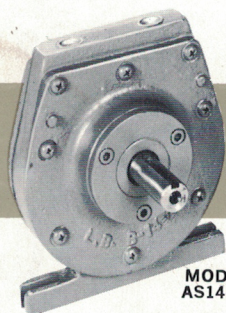
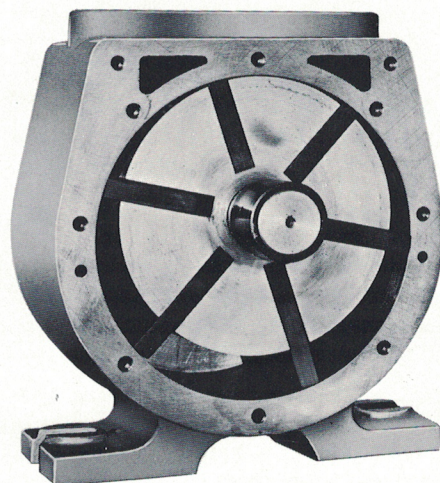
1/4 to 9 horsepower...

with Six Vanes

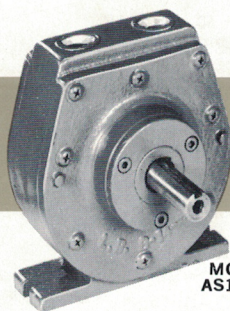
to give you more horsepower
with less air!

The new Leiman six-vane design (compared with the usual four) has two extra working vanes to supply maximum torque from each pound of compressed air. The six vanes divide the high-pressure air pulsations into many smaller pulsations to allow a low, constant r.p.m. and provide a more even, continuous torque.

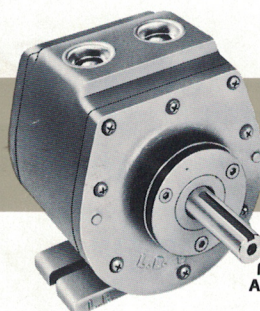
The pre-loaded six-vane design and balanced air pressures also assure positive seal with the smoothly-honed surface of the durable cast iron expansion chamber. Rotor and shaft rotate on anti-friction bearings and are balanced for minimum vibration. Vanes take up their own wear automatically.



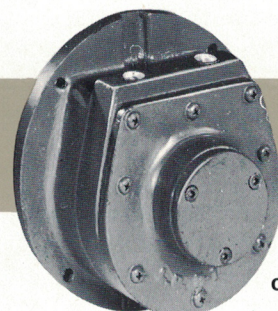
MODEL
AS14-75



MODEL
AS14-150



MODEL
AS14-300



NEMA
C FLANGES

CAPACITIES

MODEL AS14-75

For foot mounting. Capacity from 1/4 to 3/4 hp.

MODEL AS14-150

For foot mounting. Capacity from 1/4 to 1 1/2 hp.

MODEL AS14-300

For foot mounting. Capacity from 1/4 to 3 hp.

NEMA C FLANGES

All models are available with NEMA C 56 flanges for mounting to gear reducers from 5:1 to 1500:1 ratio.

MODEL AS34-600

For foot mounting. Capacity from 1/2 to 6 hp.

MODEL AS34-900

For foot mounting. Capacity from 1 1/2 to 9 hp.

MANY OTHER ADVANTAGES

- **Explosion-proof.** Operates safely with combustible or explosive products.
- **Variable speeds** — from 50 to 2,000 r.p.m.
- **Reversible.** Reverses direction without damage.
- **No burn-outs.** Unharmd by overloads or stalling.
- **Smooth power.** Smooth start-up and running.
- **Cool operation.** Self-cooled by its own air. Effective in ambient temperatures up to 250° F.
- **Saves weight and space** compared with electric motors of same horsepower.
- **Operates in any position** without impairing efficiency.
- **Leiman quality.** Made to the same high standards of precision and durability as the Leiman Air Pumps.

Write for literature giving complete specifications • Ask about our Free Trial Offer.

LEIMAN BROS INC

140 EAST UNION AVENUE, EAST RUTHERFORD, NEW JERSEY 07073 • PHONE: AREA 201-939-3900